November 21, 2017

Mr. Steve Fossum P.O. Box 1134 Glasgow, Montana 59230

Subject: Corrective Action Work Plan

Country Cafe, Glasgow, Montana DEQ Facility ID No. 53-10475

DEQ Leak No. 3687

Dear Mr. Fossum:

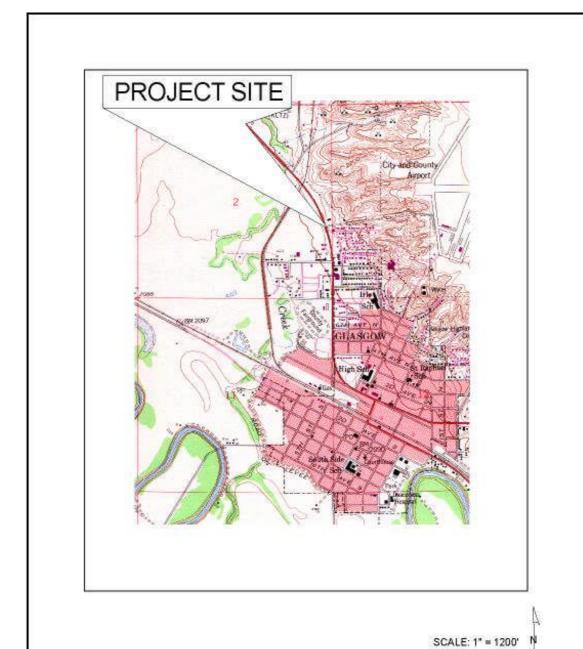
Environmental Resources is pleased to submit this Corrective Action Work Plan to outline activities associated with additional investigation and monitoring of subsurface petroleum contamination at the above referenced petroleum release site. Current data collection is necessary to adequately assess potential risks that this petroleum release may pose to human and environmental receptors and to develop a Release Closure Plan (RCP).

Site Location

The former Country Cafe refueling facility is situated in the northwest quarter of the southwest quarter of Section 1, Township 28 North, Range 39 East, Montana Principal Meridian. The site is located within a mixed residential and commercial area as shown in Figure 1.

Site Geology

Soils at the project site consist of fine-grained alluvial sediments associated with the Milk River. Bedrock consisting of the Cretaceous Bearpaw Shale is encountered at approximately 16-18 feet below ground surface. Groundwater is first encountered at approximately 18 feet below ground surface and flows southerly toward the Milk River.





COUNTRY CAFE GLASGOW, MONTANA SITE INVESTIGATION FIGURE 1, REGIONAL SITE LOCATION MAP

Scope of Work

Work tasks to be conducted within the scope of this work plan include:

- 1) Conduct a Laser-Induced Fluorescence (LIF) survey to define the extent and magnitude of petroleum impacts to soil beneath the project site
- 2) Conduct a receptor survey, identify migration pathways and discuss whether an identified pathway can potentially be completed.
- 3) Verify that utility corridors are not acting as preferential pathways for contaminant migration
- 4) Conduct a vapor intrusion (VI) assessment of the Ezzie's Wholesale West End convenience store building
- 5) Prepare a RCP for the project site
- 6) Prepare a Standardized Generic Applications Report (AC-07) detailing the results of the investigation and RCP

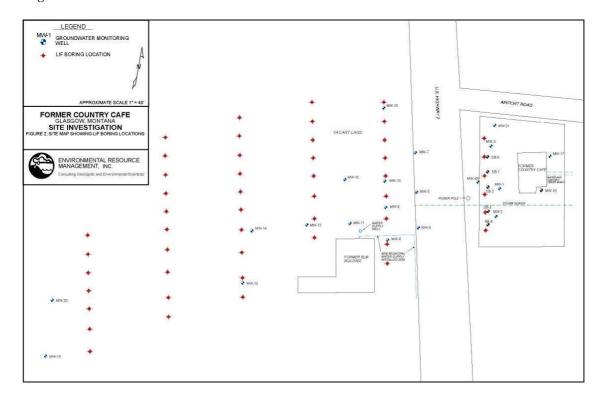
LIF Investigation

Subsurface soil contaminant data will be collected in-situ using a direct push sampling rig equipped with a LIF logging system. Up to 50 soil borings will be advanced to 30 feet below ground surface at the locations shown on Figure 2 to define the vertical and lateral extent of petroleum impacted soil.

Following completion of the LIF boring work, up to 17 confirmation soil borings will be advanced using direct push methods to collect soil samples from selected contaminated intervals identified during the LIF boring program. Soil samples will be screened for volatile petroleum compounds using a photo ionization detector (PID) and soil samples exhibiting the highest PID reading will be retained for laboratory analysis in addition to soil samples collected from intervals identified to be most highly impacted as indicated from the LIF boring data. Up to 34 soil samples will be analyzed for VPH at Alpine Analytical in Helena, Montana.

Receptor Survey

A receptor survey will be conducted to identify potential receptors of petroleum contamination. The survey will include identifying and verifying all utility corridors, water supply wells and subgrade spaces near the project site.



Structure VI Assessment

The convenience store building that occupies the former Country Cafe property will be subjected to a soil vapor assessment that will entail installing and sampling up to three soil vapor monitoring points around the building perimeter. Each vapor point installation will consist of boring through the subsurface to a depth slightly below the building slab level and installing a vapor collection point installed in accordance with the "Montana Vapor Intrusion Guide". Subslab vapor samples will be analyzed for TO-15 and Air Phase Hydrocarbons (APH) at Pace Analytical in St. Paul, Minnesota.

Report and RCP Preparation

A RCP will be prepared to outline a process to achieve release closure. The results of the RCP preparation will be included in a Standardized Generic Applications Report (AR-07). The final report will summarize the results of work conducted within the scope of this work plan and will provide recommendations for future corrective action that may be required.

Investigation Derived Waste

Drill cuttings, excess sample materials, drilling fluids, and water removed from a well during installation, development, and aquifer testing and all other investigation derived wastes will be disposed of according to all applicable local, state and federal laws and regulations governing the disposition of investigation derived wastes. Investigation derived wastes may consist of the following materials:

- -- Drill cuttings
- -- Purge water from monitor well sampling
- -- Used soil and groundwater sampling materials
- -- Excess sample material (soil and water)

Investigative Methods

Methods practiced during this investigation will follow generally accepted practices of similar consulting firms in the same geographical area. Quality Assurance/ Quality Control methods will be employed throughout all phases of this investigation to ensure meaningful and reproducible results and data.

Health and Safety

Health and safety issues will be addressed throughout this investigation to prevent exposure of site workers and other onsite personnel to potentially hazardous situations and chemical compounds. Site specific health and safety precautions and information will be contained in a Health and Safety Plan which will remain onsite during all field activities.

Project Costs

Costs associated with implementation of this work plan are outlined below.

TASK	UNIT COST	COST
Task 1-Work Plan Preparation		
Prepare and solicit bids, S-II	4.0 hrs @ \$110/hr	\$440.00
CAP Preparation, S-II	6.0 hrs @ \$110/hr	660.00
Review, S-III	1.0 hr @ \$120/hr	120.00
	Subtotal	<u>\$</u> 1220.00
Task 2-LIF Survey		
Project Management, S-II	5.0 hrs @ \$110/hr	\$550.00
Health and Safety Plan, S-II	3.0 hrs @ \$110/hr	330.00
Mobilization to Glasgow from Bozeman	٦,	
two round trips, S-I	26 hrs @ \$100/hr	2600.00
Mileage	1440 miles @ \$0.59/mile	849.60
Onsite supervision, S-I	120 hrs @ \$100/hr	12,000.00
PID rental	1 week @ \$296/week	296.00
Per diem	12 days @ \$23/day	276.00
Lodging	12 nights @ \$100/night	1200.00
LIF boring bid, Dakota Tech.		40,400.00
7% subcontractor markup		2808.00
Laboratory analyses	34 VPH soil @ \$135 ea.	4590.00
Sample handling fees	34 samples @ \$10 ea.	340.00
1 0	Subtotal	<u>\$</u> 66,259.60
Task 3-Receptor Survey		
Research, identify and verify utilities		
and potential receptors, S-II	20.0 hrs @ \$110/hr	\$2200.00
1 ,	Subtotal	\$2200.00
Task 4-Structure Vapor Intrusion Asse	essment	<u> </u>
Vapor point installation and sample		
collection, S-I	18.0 hrs @ \$100/hr	\$1800.00
Mobilization, RT from Bozeman, S-I	13.0 hrs @ \$100/hr	1300.00
Mileage, 4WD	720 miles @ \$0.59/mile	424.80
Per Diem	4 days @ \$23/day	92.00
Lodging	3 nights @ \$100/night	300.00
Misc. materials	tubing, vapor points, etc.	240.00
Hilte hammer drill rental	weekly	300.00
Laboratory fees	3 air samples for TO-15/APH @ \$325 ea.	
	Subtotal	\$5431.80
Task 7-Reporting		
RCP preparation, S-II	8.0 hrs @ \$110/hr	\$880.00
AC-07 report prep, S-II	28.0 hrs @ \$110/hr	3080.00
Review, S-III	3.0 hrs @ \$120/hr	360.00
	Subtotal	\$4320.00

Limitations

This work was performed in accordance with generally accepted practices of other consulting firms conducting similar studies. Environmental Resources, LLC observed that degree of care and skill generally exercised by other consultants under similar conditions. Our findings and conclusions must not be considered as scientific certainties, but as opinions based upon our professional judgment based upon the data gathered during the course of this investigation. Other than this, no warranty is implied or intended.

Submitted by Environmental Resources, LLC

Robert H. Waller Project Geologist

cc: DEQ-PTCS MPTRCB

Attachment: LIF bids



5001 Boone Ave N New Hope, MN 55428 (763) 424-4803 fax (763) 424-9452

Client:	Environmental Resources
Contact:	Robert Waller

Services: UVOST/EC

Date: 11/10/2017
Project: Country Café
Project #:

Address: Glasgow, MT

- Dakota will coordinate a public utility locate for the work area.
- Client and/or property owners are responsible for the location of private utilities in work area(s).
- Advance 50 borings to a depth of 30' for collection of UVOST/EC data.
- Advance 17 borings to requested depths for collection of confirmation soil samples.
- Borings will be abandoned according to State guidelines.
- Prepare standard report along with data visualization package 2D/3D/4DIM images.
- Dakota personnel will be prepared to conduct all work in Level D protective equipment.

Unit Costs

			Estimated	Estimated
Description	Unit Cost	Unit	Quantity	Total
Coord/Std. Report	\$1,000.00	Lump Sum	1	\$1,000.00
Mob - Direct Push Rig	\$2.50	Per Mile	870	\$2,175.00
Mob - UVOST Vehicle	\$2.50	Per mlle	870	\$2,175.00
Rig/UVOST-EC/Crew(x2)	\$4,250.00	Per Day (9-hrs)	5	\$21,250.00
Rig/Crew(x2)/Soil Sampling	\$2,000.00	Per Day (9-hrs)	2	\$4,000.00
Abandonment	\$1.00	Per Foot	2000	\$2,000.00
Concrete Coring Equipment	\$400.00	Per Day	0	\$0.00
55-gallon Drum(s)	\$100.00	Each	0	\$0.00
Per Diem	\$175.00	Per Day/Person	16	\$2,800.00
Data Visualization (2D/3D/4DIM)	\$5,000.00	Lump Sum	1	\$5,000.00

SUBTOTAL \$40,400.00

Client Signature:		Date:	
Client Name: Client Title:		•	
Dakota Signature:	James D. V July	Date:	_11/10/2017
Dakota Name:	Jim Dzubay		
Dakota Title:	Chief Operating Officer	-	

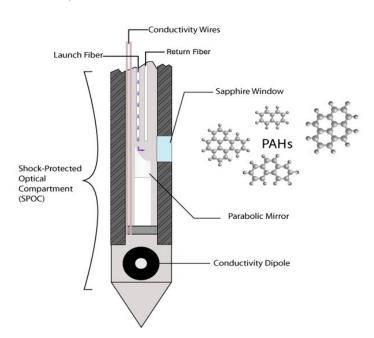
Please Note: Projects canceled within 72 hours of scheduled start date may be assessed a \$1,000 cancellation fee.

Ultra-Violet Optical Screening Tool (UVOST)

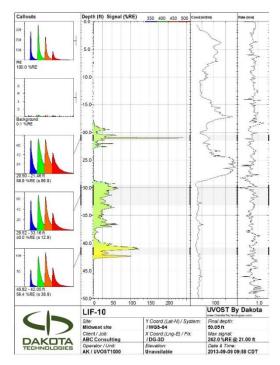
The Ultra-Violet Optical Screening Tool (UVOST®) is for the delineation of petroleum, oil, and lubricant contaminants. Fluorescence is a property of some compounds, such as polycyclic aromatic hydrocarbons (PAH), where absorbed light stimulates the release of photons (light) of a longer wavelength. Fluorescence can be used to detect small amounts of substance in or on a much larger Dakota.

The UVOST system uses a sapphire window in the side of the direct push probe (see diagram below) to measure front-face fluorescence of the petroleum NAPL as the probe is advanced into the soil with direct push equipment.

PAH fluorescence of fuels/oils is directed back to the surface where it is analyzed. Responses are indicated in real-time on a graph of UVOST signal vs. depth. The graphs also display colorized logs and waveforms to aid in interpretation.



PAHs fluoresce and emit longer wavelength light. This light is captured by the return fiber and sent to the surface



The end result of a UVOST boring is a highdensity, non-subjective electronic data log

Electrical Conductivity (EC)

The EC instrument is a complimentary tool integrated with the UVOST system. Different soil types will conduct electricity in different manners, depending on particle size and mineralogy. For example, clays generally will have high conductivity while gravels will have low conductivity.

The EC system operates simultaneously with the UVOST system. Logging with both tools can help you develop a robust conceptual site model, identifying LNAPL source locations and unconsolidated stratigraphy, two key components to predicting mobility.





Dakota Technologies UVOST® Reference Log

Main Plot:

Signal (total fluorescence) versus depth where signal is relative to the Reference Emitter (RE). The total area of the waveform is divided by the total area of the Reference Emitter yielding the %RE. This %RE scales with the NAPL fluorescence. The fill color is based on relative contribution of each channel's area to the total waveform area (see callout waveform). The channel-to-color relationship and corresponding wavelengths are given in the upper right corner of the main plot.

Callouts:

Waveforms from selected depths or depth ranges showing the multi-wavelength waveform for that depth. The four peaks are due to fluorescence at four wavelengths and referred to as "channels". Each channel is assigned a color.

Various NAPLs will have a unique waveform "fingerprint" due to the relative amplitude of the four channels and/or broadening of one or more channels. Basic waveform statistics and any operator notes are given below the callout.

Conductivity Plot:

The Electrical Conductivity (EC) of the soil can be logged simultaneously with the UVOST data. EC often provides insight into the stratigraphy. Note the drop in EC from 10 to 13 feet, indicating a shift from finer (clay) to larger grain size (sand) stratigraphy. This correlates with the observed NAPL distribution.

Rate:

The rate of probe advancement. Approx. 0.8 inches (2cm) per second is preferred. A noticeable decrease in the rate of advancement may be indicative of difficult probing conditions (gravel, angular sands, etc.) such as that seen here at approx. 5 ft.

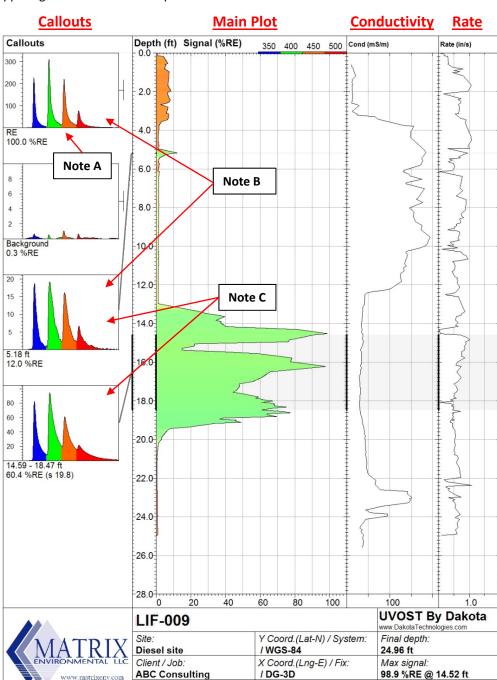
Note that this log was terminated arbitrarily, not due to "refusal," which would have been indicated by a sudden rate drop at final depth.

Information Box:

Contains pertinent log information, including name and location.

Note A:

Time is along the x axis. No scale is given on callouts, but it is a consistent 320ns wide. The y axis is in mV and directly corresponds to the amount of light striking the photodetector.



Note B:

These two waveforms are clearly different. The top box is the Reference Emitter (a blend of NAPLs) always taken before each log for calibration, and the lower box is weathered diesel from the log itself.

Operator / Unit:

A. Kirsch / UVOST1000

Note C:

Elevation:

Unavailable

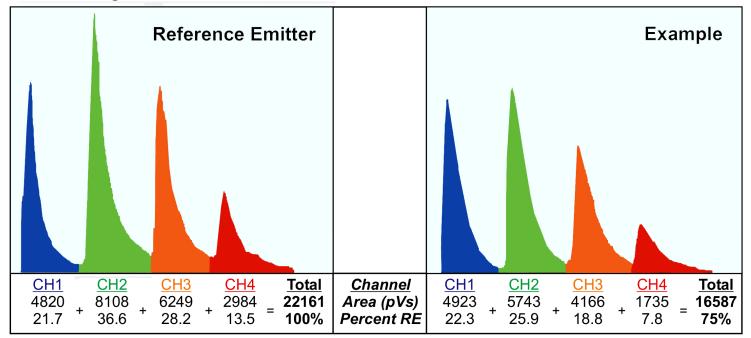
Callouts can be a single depth (see 3rd callout) or a range (see 4th callout). The range is noted on the depth axis by a bold line. When the callout is a range, the average and standard deviation in %RE is given below the callout.

Date & Time:



Dakota Technologies UVOST® Reference Log

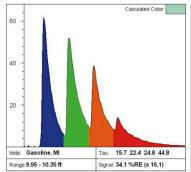
Waveform Signal Calculation

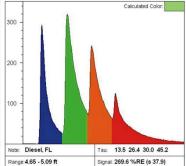


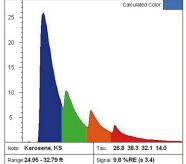
Data Files

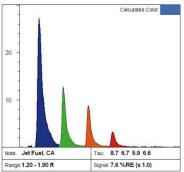
Data Tiles	
*.lif.raw.bin	Raw data file. Header is ASCII format and contains information stored when the file was initially written (e.g. date, total depth, max signal, GPS, etc., and any information entered by the operator). All Raw waveforms are appended to the bottom of the file in a binary format.
*.lif.plt	Stores the plot scheme history (e.g. callout depths) for associated Raw file. Transfer along with the Raw file in order to recall previous plots.
*.lif.jpg	A .jpg image of the OST log including the main signal vs. depth plot, callouts, information, etc.
*.lif.dat.txt	Data export of a single Raw file. Tab delimited format. No string header is provided for the columns to make importing into some programs easier. Each row is a unique depth reading. The columns are: 1-Depth; 2-Total Signal (%RE); 3-CH1%; 4-Ch2%; 5-CH3%; 6-Ch4%; 7-Rate; 8-EC Depth; 9-EC Signal; 10-Hammer Rate Depth; 11-Hammer Rate; 12-Color (RRGGBB). Summing channels 1 to 4 yields the Total Signal.
*.lif.sum.txt	A summary file for a number of Raw files. ASCII tab delimited format. The file contains a string header. The summary includes one row for each Raw file and contains information for each filed including: the file name, GPS coordinates, max depth, max signal, and depth at which the max signal occurred.
*.lif.log.txt	An activity log generated automatically is located in the OST application directory in the 'log' subfolder. Each OST unit the computer operates will generate a separate log file per month. A log file contains much of the header information contained within each separate Raw file, including: data rate, total depth, max signal, etc.

Common Waveforms (highly dependent on soil, weathering, etc.)





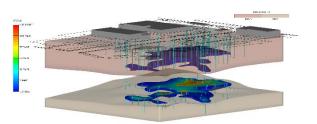




2D and 3D Data Visualizations

Dakota provides in house 2D and 3D data visualization services to deliver a 3D representation of the conceptual site model.

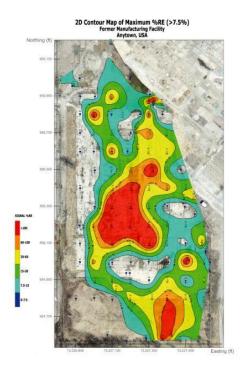
Direct Sensing technologies such as UVOST®, MIP, TarGOST®, HPT and EC offer high data density, nonsubjective data sets that are ideally suited to modeling. Inclusion of these data sets greatly enhances the accuracy and usefulness of the conceptual site model.

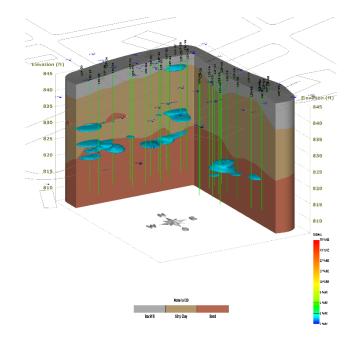


A 3D visualization incorporating UVOST® and EC data to illustrate horizontal and vertical impacts

Our 2D and 3D visualizations can incorporate any of our direct sensing technologies with high resolution GIS imagery and traditional basemap features, such as CAD drawings, topographic maps, or aerial photographs. The 3D visualizations may then incorporate lithologic information from boring logs, as well as analytical results from soil and groundwater samples. The synthesis of this information into an interactive database visualization tool allows the distribution of contaminants to be clearly shown within the hydrogeologic framework and can be used to demonstrate how the various media interact in the subsurface.

Standard deliverable packages include static images, 2D visualizations, and dynamic 3D files with an interactive viewer. Advanced packages can include horizontal slices, cross sections/fence diagrams, channel separation (for LIF), Lithology/EC data, drawing site features such as buildings, tanks, and utilities, and animations.









Expert Environmental Support Services for Site Investigation & Remediation

November 10, 2017

Bob Waller Environmental ResourcesPO Box 5305
Bozeman, Montana 59717

E-Mail: ruwaller@gmail.com

RE: Vista Proposal #17289.01; High Resolution Site Characterization 1330 US Hwy 2 West, Glasgow, Montana

Dear Bob:

Vista GeoScience is pleased to to provide Environmental Resources with this proposal for a High Resolution Site Characterization (HRSC) investigation. The attached proposal describes our technical approach and estimated costs to deploy the latest technology in HRSC tools and trained/skilled technicians to carry out the objectives of your project.

Please feel free to call us if you have any questions. We look forward to working with you on this project.

Sincerely,

Jeffrey Zajdel Field Operations Manager Vista Geoscience

Approved By:	Name/Title:	



Vista GeoScience Proposal No: 17289.01

High Resolution Site Characterization & Subsurface Imaging of: 1330 US Hwy 2 West, Glasgow, MT



Prepared for:

Environmental Resources

November 10, 2017

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1 INTRODUCTION

1.1 Site Background

This site is a former service station/truck stop that had a release of gasoline onsite. The plume of contamination is thought to be moving in a westerly direction through glacial till into the bear paw shale formation. Groundwater is estimated to be at 22-25 feet below ground surface (bgs) which is the estimated vicinity of where the contamination resides as well as the upper few feet of the bear paw shale formation.

1.2 High Resolution Site Characterization - Technical Approach

The objective of the High Resolution Site Characterization (HRSC) investigation is to accurately map the extent of the plume of contamination. The purpose of the Optical image profiling (OIP) is to properly map the extent of the Light non-aqueous phase liquids (LNAPL) onsite. The purpose of the Membrane interface and hydraulic profiling tool (MiHPT) is to then map the extent of the dissolved phase contaminants onsite to give an accurate picture of exactly where the plume is located underground.

Vista GeoScience (VISTA) proposes the following technical approach to accomplish the project objectives at the site using the following subsurface imaging system(s):

\square Membrane Interface Probe (MIP) for mapping dissolved and sorbed mass VOCs.
\square Low Level Membrane Interface Probe (LL-MIP) for increased MI sensitivity VOC mapping.
\square Hydraulic Profiling Tool (HPT) measuring permeability and estimated hydraulic conductivity.
oxtimes Combined Membrane Interface/Hydraulic Profiling Tool (MiHpt or LL-MiHPT))
oximes Optical Image Profiler (OIP) for measuring LNAPL fluorescence of poly aromatic hydrocarbons.
oximes Electrical Conductivity (EC) Dipole, integrated with all of the above tools, for soil characteristics
☑ Confirmation Soil and/or Ground Water Sampling to correlate logs with real core descriptions and/or analytical results

Included with the above equipment, vista will provide:

- A Field Scientist/Geoprobe® Trained Direct Imaging Specialist
- A computer data acquisition system with the ability to print color logs on site.
- A self-contained 4WD ATV rack mounted system with pre-strung rod rack.

1.3 Estimated Log Acquisition Rates:

Assuming no delays associated with site access, downtime from free product saturating the trunk lines and detectors, damage to probes or trunklines by the formation, hard formation and probing, or excessive dissipation testing times, VISTA estimates that it can complete approximately:

150 linear feet per day of MIP/EC or combined MiHpt/EC logging per day.

Note that estimated hydraulic conductivity (K_{est}) logs can be derived from the HPT data with the completion of one or more dissipation tests per each push location. Dissipation tests can take from a few minutes to several hours to complete. Therefore, additional time would be required to complete HPT related dissipation tests, which would in turn decrease the total feet per day that can be completed.

oximes Time for dissipation tests have not been included as a Scope of Work for the proposed
investigation and estimated in the time/costs.
\Box Time for dissipation tests have been included as a Scope of Work for the proposed investigation
and estimated in the time/costs.

1.4 Quality Assurance/Quality Control (QA/QC)

VISTA has fully trained and certified specialists for operating the Direct Imaging systems. VISTA also follow all Geoprobe Direct Imaging Standard Operating Procedures (SOPs) and ASTM Method D7352 (Standard Practice for Direct Push Technology for Volatile Contaminant Logging with the Membrane Interface Probe). This includes running all system checks at the beginning of a job and response tests on all sensors before and after each log run. In addition, all parameters, QC checks and response tests are recorded in each log run's file and can be provided to CLIENT.

1.5 Proposed Direct Sensing, Soil and Ground Water DPT Sampling Locations

It is proposed that a total of 50 locations will be advanced throughout the project. Of the 50 locations, approximately 30 will be OIP locations and the additional 20 locations will be MiHPT locations. These are not firm numbers and can be adjusted in the field depending on results from the investigation.

1.6 Confirmation Cores and Ground Water Samples

Vista also recommends collecting undisturbed offset continuous soil cores next to at least five representative MiHpt borings or 10% of the locations, after conducting all of the MiHpt borings. This would be used to compare log responses and collect laboratory confirmation samples. The CLIENT would be responsible for packaging and deliver of samples to a laboratory. The Geoprobe 2.25" Dual-Tube Coring system would be used to collect the continuous cores.

1.7 Deliverables

Draft Field Logs can be printed and/or e-mailed as PDFs on site when time permits. In addition, a PDF of the draft logs can also be emailed from the site directly from the system computer, if Verizon cell phone service is available. A daily field activity report will be submitted to the client's on site representative for signature confirming site activities.

Vista will provide a report consisting of digital raw data; and detailed logs of each boring which will consist of detector responses, depth, conductivity. Vista will provide consolidation of all detector responses.

☑ Standard Final Report will include the following at a minimum for each area:

- Written summary of field activities
- Daily Activity Reports
- Color Graphic Logs including (based on tools provided):
 - Electrical Conductivity
 - o HPT Pressure & Flow
 - Estimated K (if dissipation tests are performed)
 - o MIP FID, PID, XSD Detector Responses
 - OIP % Fluorescence

 \Box Optional Visualization Report. If sufficient data is collected and x,y,z location data is provided, an optional 3-D imaging report can include some of the following imaging services:

Log plots in Cross-Section of selected sensor responses

- Fence Diagrams of selected sensor responses
- 3-D Model Diagrams of selected sensor responses

Upon request, VISTA can provide the raw DI Viewer files and the log viewing software.

2 SCOPE OF WORK

2.1 Mobilization

Mobilization includes delivery to the job site, or moving between job sites, equipment, tools, materials, supplies, PPE, miscellaneous articles, and personnel sufficient to commence and sustain temporary DPT sampling and subsurface logging activities to meet the project schedule.

2.2 Utility Locates, Clearing, Daylighting

VISTA will notify the Utility Notification Center of Colorado (UNCC) at least 72-hours prior to our field work to obtain locates for public underground facilities, even if VISTA is a subcontractor on the job.

When locates are obtained through UNCC, the various underground facility owners are only responsible for marking their lines from the property line to the meter. Any underground utilities that exist beyond or behind the meter are considered "private" utilities and may include irrigation/sprinkler lines or water, sewer, phone and/or electric lines from the metered building to an auxiliary building on a property. Private utilities may be located by ordering private utility locates and/or by exposing the proposed excavation areas by potholing ("daylighting"). VISTA can assist you in providing private utility locates or daylighting services. Unless specifically noted below, this proposal does not include private utility locates or daylighting services. VISTA maintains the right to refuse to excavate and/or drill in any location that may be reasonably deemed unsafe to dig. VISTA will not be responsible for any utility repairs.

	☑ Proposal includes Utility Notification
	☐ Proposal includes Utility Notification and private utility locates.
	☐ Proposal includes hand augering drill locations to feet before drilling.
	☐ Proposal includes potholing and/or utility daylighting using a hydro-vac system.
2.3	Investigation Derived Waste (IDW):
	 □ Proposal includes daylighting services and assumes debris is impacted by contaminants such that disposal at an appropriate landfill or waste facility will be required. Proposed Disposal Location: □ ACI Services. Waste Treatment Facility [waste must be excluded waste as defined under 40 CFR 261.4(b) (10) Petroleum Contaminated Media & Debris from Underground Storage Tanks] Client, as generator, will be required to sign
	necessary manifests. Other:
	\Box Client, as generator, is responsible for all sampling, analysis, and profiling. Costs for transportation and disposal are extra and not included in this proposal unless otherwise noted.

2.4 Traffic Control

Sufficient work area must be provided for our direct-push rig, injection equipment, generator and other equipment if our crews are to safely and efficiently provide the requested services. Additional charges may apply if we are required to move equipment to accommodate site owner imposed restrictions or to compensate for heavy traffic conditions. We can assist you in providing traffic control. Unless specifically noted below, this proposal does not include traffic control services.

☑ Proposal does not include traffic control.

☐ Proposal includes traffic control.

2.5 Pavement Coring / Street Permits

Removal and patching of any concrete, asphalt or other surface materials will be necessary if located in the intended work area. VISTA can provide coring and patching services if requested. Unless specifically noted below, this proposal does not include coring or patching services. Please note that even if we provide pavement patching services, we cannot guarantee against future settlement or damage to the patched areas due to conditions beyond our control such as poor surrounding pavement conditions, drainage and heavy traffic. Our proposal does not include street cut permits, degradation fees or any related services unless specifically noted below.

☑ Proposal does not include pavement coring, patching services or street cut
permitting.
\square Proposal includes pavement coring and patching (subject to the limitations noted bove)
☐ Proposal includes street cut permitting, including the following specific tasks and estimated fees:

2.6 Equipment Storage & Frost Protection (if HPT survey is included)

If the project is anticipated to take more than one (1) day and is located more than 50 miles from our office, it may be necessary to store our injection equipment in a secure location overnight. Also, if the project occurs during freezing weather, our equipment must be protected from freezing. If the injection equipment cannot be stored inside a heated garage, a 120V/30A power supply must be available to operate space heaters inside the injection equipment. Our proposal anticipates the following.

☑ No equipment storage or frost protection will be required.
☐ Proposal assumes a secure storage location will be provided by the client but no fros
protection is necessary due to the anticipated weather conditions.
\square Proposal assumes client will provide a secure location to store our equipment at night and a power supply of at least 120V/30A.
$\ \square$ VISTA will provide any necessary storage and frost protection and the associated costs are included in our proposal.

2.7 Other Project Assumptions

In order to assist the client in assuring all steps necessary to successfully and safely complete this project are addressed, please note the following assumptions made when preparing this proposal. If you have any questions or need our assistance in addressing any of the following, please advise us prior to proceeding with the project.

oxtimes Proposal assumes the anticipated work can be completed using Level D Personal Protection Equipment (PPE).
oxtimes Proposal assumes the work will be completed during normal, daytime working hours.
oxtimes Proposal assumes any permits not specified in this proposal will be obtained by the client.

☑ Proposal assumes we will be able to push to the depths specified. Additional charges may apply due to rig refusal, frozen ground, or generally slow penetration rates.

☐ Additional time for pre-probing or pre-augering hole is included in this proposal.

Gulf Coast Region

PH: (281) 310-5560

☑ Proposal assumes VISTA will not be responsible for any damage to pavements or landscaped areas resulting from our crews' operation of the track rig. The client recognizes that some damage may occur due to turning, leveling and other normal operating procedures including stabilizing the rig to prevent movement during probing.
$\ \square$ Proposal includes costs for repair to damaged pavements or landscaped areas resulting from our crews' operation of the track rig.
Decontamination of Tooling:
$\ \square$ All probe rod will be decontaminated between boreholes.
oxtimes Only probe rod that is retrieved wet will be decontaminated between boreholes.
$\hfill\Box$ Tooling will not be contaminated between boreholes, exAll probe rod will be decontaminated between boreholes.
☑ Boreholes will be abandoned with hydrated bentonite chips
$\ \square$ Client will specify locations to conduct HPT dissipation tests. (Required for Estimated K Values)
oxtimes Site Lithology is conducive to MiHPT Probing, and the operator will call refusal. If the client's site rep insists on pushing beyond the operator's recommendation, the client is responsible for any resulting tool damage.
oxtimes If logs are to be adjusted for elevation, client will provide an elevation survey of all the probelocations. This is highly recommended to provide accurate cross sections and 3-D model data.
oxtimes Vista will acquire GPS location data of each site for x-y positioning on maps.
oxtimes If adequate cellular service is available at the site, PDF logs will be sent by e-mail from the site, if requested.

3 AVAILABLE SUBSURFACE IMAGING TOOLS AND EQUIPMENT

3.1 Membrane Interface Probe (MIP)

The MIP is used for field screening and rapidly mapping dissolved phase petroleum and chlorinated solvent contamination. The MIP will quickly delineate both the horizontal and vertical extent of dissolved phase contamination and identify areas of highest concentration. The MIP/EC can be used in saturated or unsaturated zones.

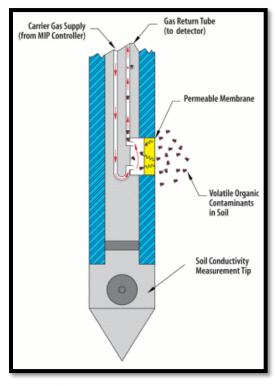
MIP is a continuous volatile organic compound (VOC) sampling system that heats the soil, water, and vapor matrix as it is driven into the subsurface. The VOC mass passes across a permeable membrane is carried to the surface by an inert gas via small diameter tubing. At the surface, the VOC mass is passed across through selective chemical detectors to provide a continuous correlation between contaminant detection and the depth of the probe at the point of detection. Vista's standard MIP sensor detection system utilizes three laboratory grade detectors in its sensor detection system:

- Photo Ionization Detector (PID)
- Flame Ionization Detector (FID)
- Halogen Specific Detectors (XSD)

Operated in Standard Mode, the MIP system can typically detect most common VOCs at levels ranging from 0.2 to 2.0 ppm. If lower limits are desired, the MIP system can be operated in Low Level mode with the addition of a controller that increases sensitivity at least 10x.

The MIP tool also has an integrated Electrical Conductivity (EC) Dipole to gather lithologic information about the soil simultaneously.

The probe is pushed at a rate of about 2cm per inch, or 15 seconds per foot. To increase sensitivity, the probe is typically paused at every 1-foot interval for approximately 45 seconds to allow the heating block to heat up a larger volume of soil and volatilize more VOCs that pass through the membrane.



Schematic of MIP probe operation.

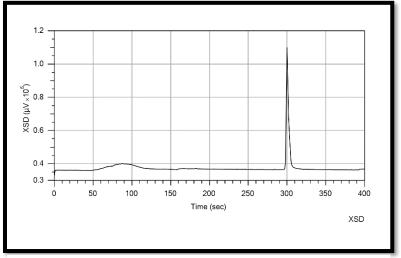


Detector instrumentation for MIP system.

3.2 Low Level MIP (LL-MIP)

LL-MIP is a technology developed by Geoprobe Systems® that greatly increases the sensitivity (and therefore utility) of the MIP logging tool. The primary feature of LL MIP technology is that the carrier gas stream that sweeps the internal surface of the MIP membrane is pulsed. This results in an increase in the concentration of VOC contaminant delivered to the MIP detectors and a 10x or better increase in sensitivity. Low Level MIP can be performed with standard MIP probes, or combined MiHpt probes.

In standard MIP operation, the carrier gas continually sweeps across the membrane transporting contaminates to the detectors at the surface. In the LL MIP method. the trunkline sweep flow temporarily stopped when the MIP probe is brought to rest at a discrete depth in the soil. Stopping the sweep gas flow allows the contaminant concentration to build behind the membrane. This results and larger narrower contaminant response peak at the detectors (Fig. 2 and 3) for a given chemical concentration. Switching valves create separate flow paths for the MIP trunkline and detectors:



Comparison of 500ppb TCE standard response tests performed by standard MIP and LL MIP methods.

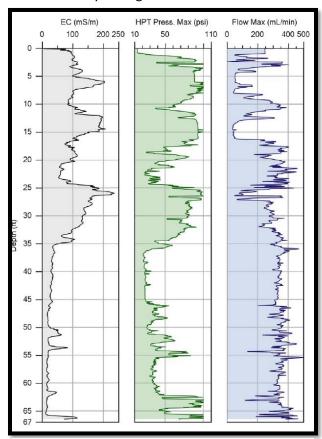
trunkline flow can be stopped and restarted without impacting detector baseline or stability. When the trunkline flow is restarted the contaminant mass (peak) is quickly swept to the surface and is routed to the detectors giving a 10x or better magnified response to any VOCs present. Low Level mode takes about 40% longer to run than standard mode, so a decrease in daily footage rate msut be accounted for.

3.3 Hydraulic Profiling Tool (HPT) w/ EC

The Hydraulic Profiling Tool is a logging tool that measures the pressure required to inject a flow of water into the soil as the probe is advanced into the subsurface. This injection pressure log is an excellent indicator of formation permeability. In addition to measurement of injection pressure, the HPT can also be used to measure hydrostatic pressure under the zero flow condition. This allows the development of a hydrostatic pressure graph for the log and prediction of the position of the water table.

Formation hydraulic conductivity can be estimated from HPT logs using a empirical relationships developed for the tool. These estimations can be made automatically using the DI-Viewer software. A graph of hydraulic conductivity estimated from an HPT log is shown in Figure 5. Data from this estimate is readily transferable to groundwater flow models.

The rate of advancement of the probe is targeted at no more than 4ft (1.22m) per minute. Therefore, an average daily production of 200′-300′ per day can be expected.

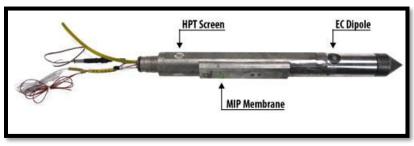


HPT log showing EC, HPT pressure & flow.

Gulf Coast Region

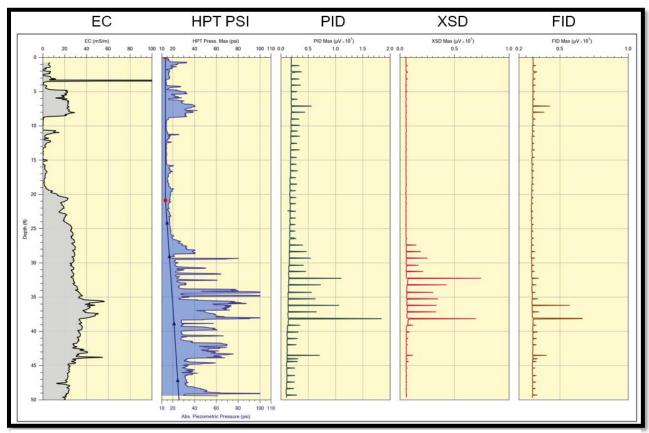
3.4 Combined Membrane Interface and Hydraulic Profiling Tool (MiHpt = MIP + HPT)

This offers the site probe investigator а powerful combination of the same logging tools described above. It is able to detect volatile compounds with the MIP, and measure hydrostratigraphy with the HPT. The probe is also equipped with the standard EC dipole. combined tool generates tremendous data set by



Sensor placement on the MiHpt probing tool body also showing water, gas and electrical connections.

simultaneously generating a log of VOCs with three selective detectors (FID, PID, XSD), hydrostratigraphy (pressure, flow and K_{est}), and electrical conductivity (EC), all in single borehole push.



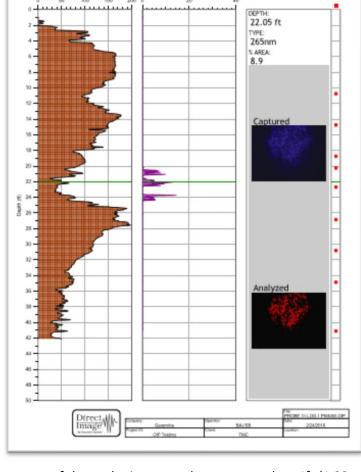
A sample MiHpt log with MIP run in Low Level mode (LL-MIP) showing selected parameters.

3.5 Optical Imaging Profiler (OIP)

The Optical Image Profiler (OIP) was developed for the detection of NAPL level fuels which will fluorescence when introduced to a UV light source. During the advancement of the probe images of the soil are taken through a sapphire window in the probe using an onboard camera. The image color is then analyzed by the software for presence of fluorescence light consistent with that of known fuels. The fluorescence is then measured as an amount of fluorescence within the area of the image.

OIP logging is performed using an OIP probe attached to 1.5in or 1.75in diameter probe rods. The probe tool is equipped with an onboard camera to collect soil images through a sapphire window produced by both UV (265 nm) and visible light sources. Simultaneous measurements of soil electrical conductivity (EC) are collected using a dipole array.

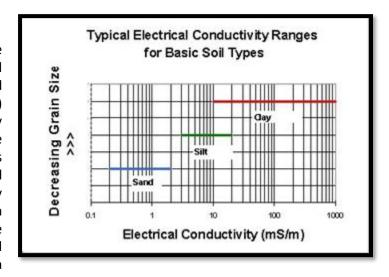
At selected depths, the operator can stop the probe and capture still images using



visible light and UV light. The rate of advancement of the probe is targeted at no more than 4ft (1.22m) per minute. Therefore, an average daily production of 200'-300' per day can be expected.

3.6 Electrical Conductivity (EC)

The EC is integrated into all of the above subsurface imaging tools to measure soil conductivity. Soil conductivity and resistivity (the inverse of conductivity) have long been used as tools to classify soils or rock formations in borehole logging tools. The power of this tool stems from the fact that, in general, silts and clays exhibit higher electrical conductivity readings than sands and gravels. As with any of the Direct Image® logging tools, the collection of a few confirmation soil samples, either from discrete depths or a



continuous core, should be used to verify the lithology represented by electrical conductivity values at a site. The electrical logs are then correlated across the site to show changes in thickness or elevation of lithologic units of interest. Soil conductivity logging continues to increase in usage because conductivity logging can be efficiently performed with highly mobile and cost-effective percussion probing equipment.

Soil conductivity, in general, varies with grain size. Finer grained soils, such as silts or clays, tend to produce higher EC signals than coarser grained sand and gravels. Figure 3 shows that while specific values cannot be assigned to each soil type, each soil type should provide a different response on a specific site. The coarser grained sediments will allow the migration of contaminants and the finer grained sediments will trap and store contaminants. The EC gives the investigator real-time, on-screen logs allowing onsite decisions.

3.7 All Terrain 4WD ATV Mounted System







Vista can mobilize an extremely mobile ATV mounted system that can access most any are a track mounted Geoprobe can. The system is also mounted in a self-contained rack that includes a water tank for the HPT tool, and gas bottles for the MIP, and can be removed with a forklift and place on a dolly cart for even more mobility inside a building.

3.8 Soil Core Collection

For confirmation sampling, continuous soil core sampling are completed using a Geoprobe® DT32 or DT22 Dual-Tube sampling system. The advantages of dual-tube sampling are a continuous outer casing while collecting soil cores. No tripping in and out of the bore hole and eliminating slough and cross contamination from different soil or water bearing zones. The outer casing may also be outfitted with an expendable cutting shoe to allow for small diameter PVC well, or pre-packed well screen, installation after continuous coring is complete. Pressure grouting is also possible with the dual tube system since the outer casing is in place the entire duration of the coring process.







Geoprobe Direct Push Sampling

Continuous core sampling system

3.9 Subsurface Imaging Standard and Optional Reports

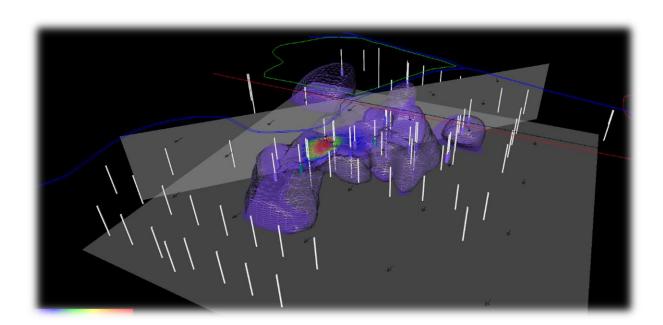
Draft Field Logs can be printed or e-mailed as PDFs on site when time permits. A daily field report will be submitted to the client's on site representative for signature confirming site activities.

A post project Final Report will include the following at a minimum for each area:

- Written summary of field activities
- Daily Activity Reports
- Color Graphic Logs including
 - Electrical Conductivity
 - o HPT Pressure
 - HPT Flow
 - Estimated K (if dissipation tests are performed)
 - o MIP FID
 - o MIP PID
 - o MIP XSD

If sufficient data is present, an optional 3-D imaging report can be provided:

- Log plots in Cross-Section of selected sensor responses
- Fence Diagrams of selected sensor responses
- 3-D Model Diagrams of selected sensor responses



4 COST ESTIMATES



Rocky Mountain Region Ph: 303-277-1694 Gulf Coast Region Ph: 281-310-5560 www.VistaGeoScience.com Date: November 10, 2017 Vista Rep: Jeffrey Zajdel jzajdel@vistageoscience.com

Vista Quote No.: 17289.01

For: Bob Waller, Environmental Resources

PO Box 5305 · Bozeman, MT · Phone: (406) 582-8491 · Fax: 0

Project Overview for: OIP/MiHPT Site Investigation

Services: Geoprobe Dual-Technology Track Rig, Direct-Imaging MiHPT, OIP System, and crew.

Advance Optical Image Profiling (OIP) tool at approximately 30 locations to a depth of approximately 30 feet bgs.

OIP investigation is designed to map the extent of the LNAPL plume onsite.

Advance Membrane interface and hydraulic profiling (MiHPT) tool at approximately 20 locations to a depth of approximately 30 feet bgs.

MiHPT investigation is designed to map the extent of the dissolved phase contaminants onsite that surrounds the LNAPL plume.

Decontaminate sample tooling between each boring location using 3-bucket alconox.

Abandon each boring location with bentonite chips and patch to match existing surface.

Complete a One Call utility locate prior to mobilizing to the site.

Address/Location: 1330 US Hwy 2 West, Glasgow, MT					
Estimated Start Date: TBD Estimated Duration (days): 11					
Site Description/Notes:					
Environmental Drilling & Labor Estimate:	QTY	PRICE	TOTAL		
Geoprobe DPT Rig, Subsurface Logging Instrumentation, & Crew, per 8hr day	10	4975.00	\$49,750.00		
Overtime for Geoprobe & Surbsurface Logging Crew, per hr		475.00			
Overtime for Geoprobe Crew (after 8 hours), per hour		335.00			
Subtotal Environmental Sampling Services:	ļ ļ		\$49,750		
Rentals / Other Services:	QTY	PRICE	TOTAL		
3-Bucket/Alconox Decon & Misc.Safety Supplies, per day	10	100.00	\$1,000.00		
Base HRSC Report: Project Overview, Summary/QC Table, Map, PDF Logs, no K logs	1	1500.00	\$1,500.00		
3-D Modeling Imagery add on	1	2750.00	\$2,750.00		
Subtotal Rentals / Other Services:			\$5,250		
Expendable Items/Materials Estimate:	QTY	PRICE	TOTAL		
Granular or Chip Bentonite, per 50# bag Filter Pack Silica Sand (20-40 mesh), per 50# bag MIP Screen, ea. HPT Screen, ea. OIP Saphire Window, ea.	30 5 3 3 4	12.00 14.00 155.00 85.00 165.00	\$360.00 \$70.00 \$465.00 \$255.00 \$660.00		
Subtotal Expendable Items:			\$1,810		
Mobilization and Travel Expense Estimate:	QTY	PRICE	TOTAL		
Lump Sum Mobilization and Setup	1	6,500.00	\$6,500.00		
Per Diem, per person, per day	26	50.00	\$1,300.00		
Lodging, per person, per day (estimated, at cost)	24	100.00	\$2,400.00		
Subtotal Mobilization Expenses:			\$10,200		
Total Estimated Project Cost: \$67,010					
Quotation valid for 90 days and subject to Vista GeoScience's Terms & Conditions.					

5 TERMS & CONDITIONS

STANDARD TERMS AND CONDITIONS FOR FIELD SERVICES AGREEMENTS

Definitions: Vista GeoScience LLC (VISTA), a Colorado Corporation, is the company providing contracted consulting, field and/or laboratory services according to this price quotation and agreement. The named customer in the quotation is referred to as the CLIENT in these here terms and conditions. Acceptance of this price quotation is considered acceptance of these terms and conditions.

Quotation: Unless otherwise stated in the quote, this a time and materials estimate. Actual quantities used will be invoiced according to the unit priced in the quote and quantities provided and used. Acceptance of this quotation includes acceptance of VISTA's Terms and Conditions by the CLIENT. A deposit or mobilization advance payment may be required for some projects depending on credit terms with the CLIENT. Pricing in this quotation is valid for 90 days.

Insurance: VISTA carries a \$5,000,000 liability insurance policy which includes general, pollution and professional liability at those limits. Workers compensation insurance and liability insurance certificates can provided upon request naming the CLIENT or property owner as additionally insured. A certificate of insurance can be provided upon request.

Utilities: VISTA will not drill on a location without a completed and current utility locate. Call the national Utility Notification Center (UNC) at 811 to obtain public utility clearance. Most services requires at least 48 hrs notice prior to the date of drilling, and longer times are generally required to arrange for on-site appointments, which may be required. If the property includes private utilities, on private property may require a private locater. If provided drilling locations, VISTA will obtain clearance and/or meet with utility locators for a fee. When calling in locates, add VISTA's name to the ticket. Vista is not responsible for damage due to improperly or unlocated utilities or subsurface obstructions. Locates can be called in under VISTA's name with the contact person being the CLIENT's field contact for providing site information or conducting on site locates. Any unanticipated time for VISTA to meet with utility locators on site will be invoiced to CLIENT at standard rates.

Licensing, Test Holes & Monitoring Wells: In Colorado, monitoring holes, monitoring wells and certain test holes require notice (3 days prior) or permitting with the Colorado State Engineer's Office as well as construction reports. An ""authorized individual"" is allowed to file these reports. Please contact VISTA if you have any questions regarding the requirements are or need assistance in filing these reports. Vista has on staff Authorized Individuals according to the rules. Each type of hole/well must be plugged by an ""authorized individual"" or licensed driller within a specific period of time based on the permitted use. Notice of plugging and abandonment may be required and is the responsibility of the well owner. Vista is also licensed to install water wells in NE, KS, OK and SD where other reporting rules apply. If VISTA is contracted by the CLIENT to work on sites in other states, the CLIENT must inform VISTA is additional licensing is required.

Daily Reports and Notifications: VISTA will provide the clients on-site representative daily field reports of all activities, time and materials used on the site including notification of any drilling issues, lost tooling or damages occurred during the day. The client will be required to sign the daily report, and can comment on any information provided on the report if so desired, and a copy of the report is provided at the end of the day or shift. Crews also maintain field notes which are available upon request after the project is completed.

Health & Safety: For environmental site services, VISTA employee's will have current OSHA certifications required for Hazardous Waste Operations (HAZWOPER) according to CFR 1910.120 and can provide current certification documents and required medical monitoring documents. VISTA maintains a general health and safety plan (HASP) and standard operating procedures (SOP) for its typical operations. A site specific HASP is required for HAZWOPER operations and is the responsibility of the site owner, or site owners representative, to provide a site specific HASP and monitoring. VISTA can provide a site specific HASP if the client is able to provide VISTA with all required information regarding site specific and operational hazards for an additional charge if not already included in this price quote and agreement. VISTA's on site staff will hold daily "tailgate" safety meetings at the start of each work day on site in cooperation with the CLIENT's on site staff and will document such meetings.

Right to Stop Work: VISTA employee's and the CLIENT's on site representative have the right top call a STOP WORK order if any party feels that any task or operation is a health or safety risk or that damage to any equipment or property may occur.

US DOT & FMCSA Regulations: VISTA follows all US Department of Transportation Regulations and the Federal Motor Carriers Association Rules and operates under US DOT number 1725929. All commercial vehicle operators are trained on the commercial driving rules and those driving vehicles over 26,000 lbs GVW have a commercial drivers license. Most VISTA drivers have air-brake and tanker endorsements, but not Hazardous Materials endorsement. Therefore, VISTA is not permitted to transport hazardous cargo over DOT limits. It is understood by both that crews operating on sites mobilized away from our home office may be required to take 24 hour rest periods to continue operation of commercial vehicles on public roads according to MACS rules. Per diem and/or standby charges may apply.

Site Conditions, Tool & Equipment Damages: VISTA does not charge for normal wear and tear of tooling or equipment or breakage of work tooling or equipment. However, if site conditions are such that abnormal breakage occurs to tooling or other equipment, charges for such damage will be included in the invoice for replacement of such tooling and equipment. VISTA's on site representative will notify the CLIENT's on site representative if such damage is anticipated based on initial work on the site, or it if occurs on the site, and such damage will be noted with site conditions on the Daily Field Services Report.

Invoicing & Payment Terms: Invoices are sent either after project completions, at the end of a task or PO order, or at two week intervals on longer projects. Payment is due in Net 30 days from invoice date unless otherwise stipulated in this quote or an overriding contract or agreement. A mobilization advance payment/deposit may be required for some projects depending on credit terms with the client. Separate terms may apply to large material purchase, including remediation materials. Late payments will accrue interest at 2.0% per month finance charges accruing from the original invoice date. Any additional cost incurred on past due invoices will be added to the amount due including but not limited to collection agency fees, attorney fees and court fees.

6 APPROVALS

If this proposal, terms and conditions are satisfactory, please signify your acceptance by having an authorized person sign below and provide copy to VISTA. If the CLIENT wishes to provide their own subcontract, this entire proposal must be included at a referenced attachment with all assumptions and terms included.

We appreciate the opportunity to provide this proposal for our professional services. Please contact us if you have any questions.

Respectfully submitted,	Reviewed by,
Vista GeoScience, LLC	
Jeffrey Zajdel Field Operations Manager	John V. Fontana. P.G. President/CEO
NOTICE TO PROCEED:	
THE UNDERSIGNED SIGNATORY REPRESENTS AND WARR THIS AGREEMENT.	ANTS THEY HAVE AUTHORITY TO ENTER INTO
ACCEPTED BY (SIGN):	DATE:
PRINT NAME / TITLE:	

7 STATEMENT OF QUALIFICATIONS

(Attachment)